

**HUNG YEN PEOPLE'S COMMITTEE
NATURAL RESOURCES & ENVIRONMENT DEPARTMENT**



SEARCHING FOR SUITABLE TECHNOLOGY FOR WASTE WATER TREATMENT IN RURAL AREAS OF HUNG YEN PROVINCE

**TEN: Mr LE DUC LANH
CHUC DANH: HEAD OF ENVIRONMENT PROTECTION AGENCY**

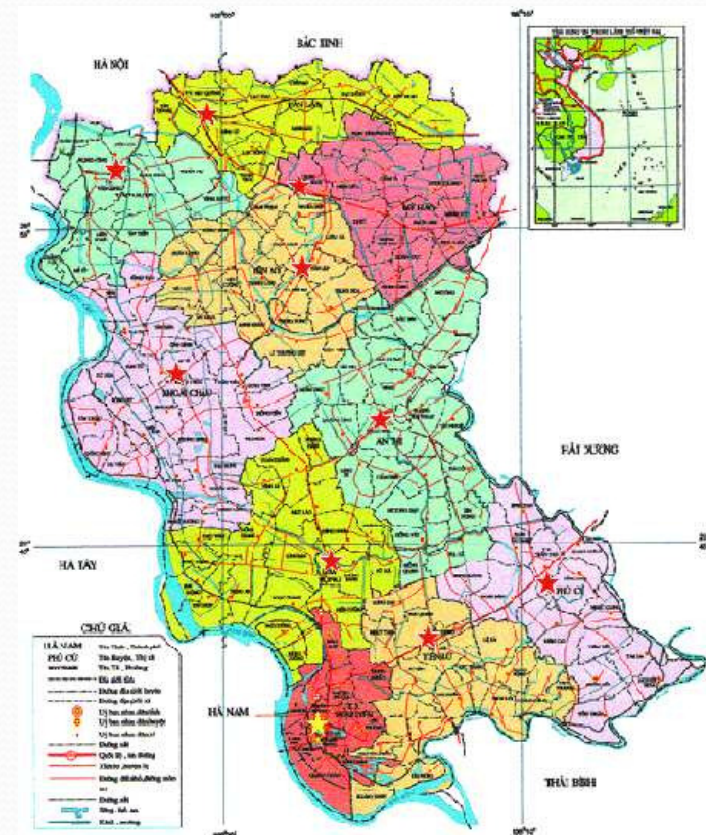
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I. OVERVIEW OF NATURAL, SOCIO-ECONOMIC CONDITIONS OF HUNG YEN PROVINCE

1. Overview

- Hung Yen is a province in the Red River Delta, located in the northern key economic triangle: Hanoi - Hai Phong - Quang Ninh. The total natural land area of the province is 930.22 km². The population is 1.25 million people, of which urban population is 255,591 people (20.4%) and the rural population is 997,140 people (79.6%) of the provincial population; The province has 08 districts, 01 town and 01 city with 161 communes, wards and towns.

- The province has an important road traffic system such as Hanoi - Hai Phong expressway, National highways: 5A, 39A, 38A, 38B; highway linking Hanoi - Hai Phong with Cau Gie - Ninh Binh, Hanoi - Hai Phong railway; It has a dense network of rivers, including the Red River of 45km, the Luoc River of 25km and the Bac Hung Hai Irrigation System, forming a convenient transportation network for goods exchange and travel.



I. OVERVIEW OF NATURAL, SOCIO-ECONOMIC CONDITIONS OF HUNG YEN PROVINCE

2. Socio-economic development situation

- In recent years, Hung Yen province has had a relatively fast socio-economic development rate, in 2017, it was one of 16 provinces / cities / 63 provinces and cities of the whole country to balance the budget and a part of contributing to the central government.
- In 2018, the gross output of the product (GRDP) increased by 9.43%, the total product per capita (GRDP / person) reached VND 55.3 million;
- Economic structure: Industry and construction 51.56% - agriculture and fishery 10.58% - service 37.86%;
- Total development investment capital of the whole society reaches VND 31,547 billion; Total budget revenue is VND 13,168 billion.



II. CURRENT SITUATION OF COLLECTION AND TREATMENT OF RURAL RESIDENTIAL WASTE IN HUNG YEN PROVINCE

1. Daily-life waste water

Estimated rural domestic wastewater generated about 80,000 m³ / day and night. All of this wastewater is not collected, treated in accordance with technical standards, discharged directly into rivers, canals, ditches, ponds and lakes causing environmental pollution.

2. Farm waste

The number of pigs is 590 thousand, the number of buffaloes and cows is 39,400 and the poultry is over 8.5 million. Including more than 2,000 farm households and about 720 animals farm (600 cattle farms, 120 poultry farms) with a total waste production of about 13,000 to 15,000 m³ / day night.

II. CURRENT SITUATION OF COLLECTION AND TREATMENT OF RURAL RESIDENTIAL WASTE IN HUNG YEN PROVINCE

3. Craft village waste water

- Total 54 villages
- Recycling villages: 03; Metal mechanical villages: 02; Others: 27
- The total amount of waste water from craft villages in the province is 6,516m³ to 10,016m³ / day and night. Most of them are not collected and treated, going directly into rivers, canals, ditches and ponds, causing serious environmental pollution

4. Medical wastewater

Currently, the province has a total of 24 public health facilities at the provincial and district level (3,200 m³ / day), 159 communal health facilities (350 m³ / day) and 02 private general hospitals (200 m³ / day). night), 342 private clinics (51.3m³ / day night) with a total wastewater of 3,550 m³ / day night. at present, there are 09 public health facilities at provincial and district levels, 159 communal health facilities and 342 private clinics with a total of 1,089.3m³ / day night of medical waste. , handling to ensure environmental technical standards.

III. REQUIREMENTS FOR COLLECTION, TREATMENT OF RURAL WASTE WATER IN HUNG YEN PROVINCE

*The total rural waste water of Hung Yen province accounts for about 70% of the total waste water generated in the whole province; currently discharging directly (wastewater not treated up to standards) into Bac Hung Hai system and rivers, canals and ditches in the province. This is the main reason leading to the pollution of surface water in the province. Surface water in the province is mainly polluted due to organic and microbiological parameters exceeding national technical standards on surface water quality - QCVN 08-MT: 2015 / BTNMT, and tends to increase Pollution, specifically: DO is 1.01-1.86 times lower; TSS exceeded 1.04-5.22 times; COD exceeds 1.00-16 times; BOD5 exceeds from 1.07 to 4.63 times; NH₄ + exceeds 1-14.22 times; PO₄³⁻ surpassed from 1.07 to 18.32 times; NO₂⁻ exceeds from 1-11.8 times; total grease exceeds 1-8.85 times; coliform exceeds from 1-32 times.

IV. EFFORTS TO RESOLVE POLLUTION FROM RURAL RESIDENTIAL WASTE

1. The provincial Party Committee and the provincial People's Committee issued guiding documents and legal documents on provincial environmental protection. Including: Provincial environmental protection regulations (production and business facilities are required to have wastewater treatment facilities reaching column A of QCVN); Local technical regulations on domestic and industrial wastewater (with higher requirements than Column A of QCVN).
2. Building a model of collecting and treating rural daily-life waste water in the province:
 - In 2018, the Department of Natural Resources and Environment built a wastewater treatment model for a cluster of households (54 households) with a capacity of 25 m³ / day and a household size of 1.2 m³ / day. Application of anaerobic biotechnology in combination with tree planting filtration yards.
 - The project of Johkasou technology wastewater treatment in Japan, funded by JICA Japan in Vietnam with 100% funding, at preschool in Dinh Du commune, Van Lam district and Ecopark urban area , Vãn Giang district.
 - Exchange experiences of provinces on rural wastewater collection and treatment models; Practical visit to domestic wastewater treatment facilities.

IV. EFFORTS TO RESOLVE POLLUTION FROM RURAL RESIDENTIAL WASTE

3. Currently, the project of collecting and treating rural wastewater in HY province in the period of 2020-2025, with a vision to 2030, is the basis for implementing wastewater treatment tasks and solutions throughout the province.

* HY province has made every effort to find solutions to collect and treat waste water from rural people, but the biggest difficulty is that there is no suitable technology to treat domestic wastewater, animal husbandry and rural handicraft villages. ; difficult technology selection (MONRE built a model of rural domestic wastewater treatment in Chinh Nghia, Kim Dong district; practical field visit of domestic wastewater treatment technology with similar technology in Bach Quang ward , Song Cong city, Thai Nguyen).

V. OPPORTUNITIES AND CHALLENGES IN WASTEWATER COLLECTION, TREATMENT

1. Opportunity

Leaders and authorities of the province are very interested in the work of environmental protection in the province.

- Issue many steering documents, legal documents
- Annually, the province is interested in allocating no less than 1% of the budget to perform environmental protection tasks.

V. OPPORTUNITIES AND CHALLENGES IN WASTEWATER COLLECTION, TREATMENT

2. The challenge

- Vietnam has no clear mechanism, policies and sanctions to encourage private enterprises to invest in wastewater collection and treatment projects in residential areas, especially for zones and clusters. residential in rural areas.
- Awareness and responsibility of people on environmental protection and sanitation are not high.
- Collection and drainage infrastructure in residential areas has not been synchronized, rainwater and wastewater are not separated yet, many residential areas have not been invested with public drainage systems, people are discharged into ponds and lakes. or penetrating into the ground, making it difficult for centralized collection and processing.
- It is difficult to find locations, public land funds to build concentrated domestic wastewater treatment facilities.
- There has been no treatment yet, forcing households to invest in domestic waste water treatment facilities up to environmental standards, so the investment is mainly from the state budget. Moreover, the state budget for environmental service activities allocated to collection, transportation and treatment of domestic waste in recent years has not met the actual needs.

VI. RECOMMENDATIONS AND SUGGESTION

1. After Hung Yen Provincial People's Committee approves the Scheme on rural wastewater collection and treatment in the 2020-2025 period, with an orientation toward 2030, it is expected to invest in:

- 1,100 domestic wastewater treatment facilities for household groups (about 40-100 households / work).
- 09 wastewater treatment facilities with a capacity of 100-150m³ / day and night for 09 provincial and district public health facilities.
- 159 communal health facilities and 342 private clinics must be invested to install appropriate treatment equipment or collection equipment, periodically hire units with transport and handling functions to ensure standards. environmental engineering.
- About 600 livestock wastewater treatment facilities.

At present, the province does not have suitable wastewater treatment technology, so it is expected that the Japanese side will support the transfer of wastewater treatment technology, especially for domestic wastewater to ensure investment and operation costs. suitable with the conditions of socio-economic development of Hung Yen province.

VI. RECOMMENDATIONS AND SUGGESTION

2. With the results of implementing Phase I of the project of supporting the installation of Jokashou technology at Ecopark and the Preschool of Dinh Du commune, Van Lam district; Hung Yen Province hopes that Japan JICA will continue to support Phase II of the Jokashou technology expansion project to treat domestic wastewater in Hung Yen province (applied in 8 districts and towns. city of the province with 10 Jokashou tanks with a household size; 10 Jokashou tanks with a cluster of households from 5 to 10 households and 10 Jokashou tanks for 10 schools; ...).

This will be very convenient in assessing and making a good basis for the deployment and expansion of Jokashou technology in the treatment of domestic wastewater in Hung Yen province in particular and in Vietnam in general. 3. Sharing experiences in promulgating mechanisms and policies on wastewater management of separate residential areas and clusters and trade villages. Especially the mechanism and policies of the State to encourage enterprises to invest in projects of collecting and treating trade village waste water and daily-life waste water in urban centers, residential areas and population clusters in rural areas.

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VI. RECOMMENDATIONS AND SUGGESTION

4. Sharing experiences in mobilizing resources for technology development, technology application, financial sources (of the state, enterprises, households) and organizing the implementation of collection, treating domestic wastewater of residential areas and trade villages.
5. Support and funding for the construction of a centralized wastewater treatment system for My Hao Town, with a capacity of about 10,000 m³ / day and night.
6. Coordinating in surveying, supporting to handle polluted rivers, canals, ponds and lakes in Hung Yen province.



THANK YOU VERY MUCH
FOR YOUR ATTENTION

IF YOU HAVE ANY QUESTION,
PLEASE SEND TO MY EMAIL ADD:
chicucbvmthy@gmail.com